TABLE OF CONTENTS

		Page
1.	INTRODUCTION 1.1 Scope 1.2 References 1.3 Purpose 1.4 A/G System Mission Needs 1.5 FAA Planning Process 1.6 Document Organization	. 1-2 . 1-2 . 1-2 . 1-3 . 1-5
2.	SYSTEM DESCRIPTION 2.1 Current System Architecture Overview 2.1.1 Current System Elements 2.1.2 Current System Connectivity 2.1.3 Current System Security 2.2 Future System Architecture Overview 2.2.1 Future System Elements 2.2.2 Future System Connectivity 2.2.2.1 External Connectivity 2.2.2.2 Internal Air-to-Ground and Ground-to-Air Connectivity 2.2.2.3 Internal Air-to-Air Connectivity 2.2.4 Security 2.3.1 Transition to the Future System 2.3.1 Transition Considerations 2.3.2 Operational Transition 2.3.3 Ground Infrastructure Transition 2.3.4 Frequency Management Transition	. 2-1 . 2-8 . 2-9 . 2-9 . 2-13 2-15 2-15 2-16 2-16 2-17 2-18 2-18 2-18
3.	SUPPORT ENVIRONMENTS (Annotated Outline Only)	. 3-1
4.	USER AND OPERATOR DEFINITION (Annotated Outline Only)	. 4-1
5.	OPERATIONAL SCENARIOS 5.1 Operational Environments and Users of the A/G System	. 5-1 . 5-2 . 5-2 5-15 5-15 5-16 5-16 5-21 5-24 5-28 5-35 5-35 5-35 5-38 5-41

TABLE OF CONTENTS, CONTINUED

5.6.2.2 Terminal Operations	
5.6.2.2.1 Commercial Air Transport Users 5.6.2.2.2 General Aviation Users 5.6.2.3 En Route Operations 5.6.2.4 Oceanic Operations 5.6.2.5 Flight Services 5.6.2.6 National Traffic Flow 5.7 Operational Scenarios Flow 5.8 Support Scenarios 5.9 Maintenance Scenario	
5-10 Training Scenario	
6. OPERATIONAL MODES (Annotated Outline Only)	6-1
Appendix A- SOURCE REFERENCES	A-1
Appendix B - LIST OF ACRONYMS	B-1
Appendix C - RECHLATIONS, STANDARDS, and PROTOCOLS	C-1

LIST OF FIGURES

Figure Page

1-1	Air/Ground System Planning Document Hierarchy	1-6
2-1	Current A/G Communications Ground System Architecture	2-2
2-2	Air-To-Ground Communications Growth	2-4
2-3	High Traffic Airspace Demands for Capacity	2-4
2-4	The VHF Nav/Comm Resource	2-6
2-5	Future A/G Communications Ground System Architecture	2-10
2-6	The TDMA Concept	2-12
2-7	Future A/G System Elements	2-14
5-1 Comm	Operational Environments and Users of the A/G unications System	5-1
5-2	Transfer of Communications Example	5-6
5-3	Reduction of Stuck Microphone Incidents Example	5-7
	Reduction of Clipped and Blocked Transmissions troller Override) Example	5-8
5-5	Selective Addressing Example	5-9
5-6	Link Failure Detection and Correction Example	5-10
5-7	Link Security Example	5-11
5-8	Aircraft Identification/Caller ID Example	5-12
5-9	Pilot Urgent Message Indicator Example	5-13
5-10	Channel Contention Limitor Example	5-14
	Applications of ATC Tower/Airport Surface unications Features	5-18
5-12 Serv	ATC Tower/Airport Surface Communications ices	5-19
5-13 Feat	Applications of ATC Terminal Communications ures	5-22
5-14	ATC Terminal Communications Services	5-23

LIST OF FIGURES

5-15 Featu:	Applications of ATC En Route Communications res	5-26
5-16	ATC En Route Communications Services	5-27
5-17	Oceanic Communications System Description	5-30
5-18 Featu:	Applications of ATC Oceanic Communications res	5-31
5-19	ATC Oceanic Communications Services	5-32
5-20 Commu	Applications for Specialist Flight Services nications	5-34
5-21 Commu	Applications for Pilot Tower/Airport Surface nications Features	5-39
5-22 Servi	Pilot Tower/Airport Surface Communications ces	5-40
5-23 Featu:	Applications for Pilot Terminal Communications res	5-42
5-24	Pilot Terminal Communications Services	5-43
5-25 Featu:	Applications for Pilot En Route Communications res	5-45
5-26	Pilot En Route Communications Services	5-46
5-27 Featu:	Applications for Pilot Oceanic Communications res	5-48
5-28	Pilot Oceanic Communications Services	5-49
5-29 Commu	Applications for Pilot Flight Services nications Features	5-50
5-30	Pilot Flight Services Communications Services	5-51
C-1	The VHF Nav/Comm Resource	C-3

LIST OF TABLES

2-1	New A/G ATC Features	2-13
	Applicability of Future System Features to ent ATC A/G Communications Functions	5-3
5-2	Future Tower/Surface VHF A/G Communications	5-20
5-3	Future Terminal VHF A/G Communications	5-24
5-4	Future En Route VHF A/G Communications	5-28
5-5	Future Flight Services VHF A/G Communications	5-35